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Corticioid fungi (*Basidiomycota*) from the Azores Islands: Flores and São Miguel

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Abstract — The catalogue of corticioid fungi from Flores and São Miguel Islands (Azores archipelago) is presented. The study covered 29 localities and 644 samples were analyzed. This catalogue includes 83 species, of which 32 are new to the archipelago. They belong to 37 genera. *Trechispora* (9 species), *Hyphodontia* (7 species), *Peniophora* (6 species), and *Tubulicium* (4 species) are the most significant genera. A remarkable feature is the presence in the archipelago of *Peniophora bicornis*. The complete catalogue is available in http://www.mycotaxon.com/resources/weblist.html.

Key words — *Aphyllophorales*, fungal diversity, lignicolous fungi, Macaronesia, Portugal, species inventory

Introduction

The Azores archipelago, located close to the Mid-Atlantic Ridge, is formed by nine volcanic isles divided in three groups: the eastern group (São Miguel, Santa Maria and Formigas Islets), the central group (Terceira, Graciosa, São Jorge, Pico and Faial) and the western group (Flores and Corvo). This paper is a follow-up of the study of diversity of corticioid fungi of three islands of the central group: Faial, Pico, and Terceira, recently published by Telleria et al. (2009). The present issue comprises the catalogue of species from Flores (western group) and São Miguel (eastern group).

Lying on the most westerly side of the group of islands, Flores has a surface of 143 km^2. It is located approximately 1890 km from the European continent and is situated at 39°28' N latitude and 31°13' W longitude. The place is characterized by deep valleys and peaks; Morro Alto is the highest peak of the island, reaching an altitude of 913 msl. São Miguel Island is the largest and most densely populated of the Azores archipelago and covers a surface of 750 km^2, it is located approximately 1350 km from the European continent and situated at 37°44' N latitude and 25°41' W longitude. Its relief is dominated by the Pico da Vara (1103 msl) in the eastern part and the Pico das Éguas (873 msl) in the west, the central part is the lowest (maximum of 400 msl).

The climate of the Azores is temperate oceanic, the mean annual temperatures is 14–18°C and the mean annual precipitation 740–3000 mm increasing from east to west. The highest level is on Flores where the mean annual precipitation at 500 msl is more than 2500 mm. The most humid period, between October and March, contributes 65–70% of the annual rainfall and the relative humidity exceeds 95% on more than 50 days per year.

The wildlife on Azores has been severely affected since the arrival of the first Portuguese settlers 500 year ago. The flora of vascular plants of Azores consists of 1002 taxa, 31% indigenous and 69% introduced. Flores has 55.2% of introduced taxa and São Miguel 66%. The majority of indigenous taxa have a wide distribution and of these more or less 60 are endemic (Silva & Smith, 2004). Four of them are predominating substrata of corticioid fungi, i.e. *Juniperus brevifolia* subsp. *azorica*, *Picconia azorica*, *Erica azorica* and *Ilex azorica*. The most important introduced substrata are: *Pittosporum undulatum*, *Cryptomeria japonica* and *Acacia melanoxylon*.

Until now, 101 species of corticioid fungi have been reported from Azores. The earlier information available about corticioid fungi is the following: Dennis et al. (1977) published a report from this archipelago; Dueñas et al. (2008) described *Candelabrochaete macaronesica* from Faial, and Melo et al. (2008) *Repetobasidium azoricum* from Terceira. Recently Telleria et al. (2009) have published a preliminary survey with 88 species.

Material and methods

Twenty-nine localities were surveyed over a period of ten days at the spring of 2007. All potential substrates, indigenous and introduced taxa were examined. 644 samples were studied following classical methods: thin, freehand sections were mounted in KOH (5%) and/or Melzer reagent and examined under Olympus BH 50 and Olympus BX 50 microscopes. The specimens have been deposited in BIO, LISU, MA-Fungi, and TFCMic. herbaria.

Results

The catalogue for the corticioid fungi from Flores and São Miguel (http://www.mycotaxon.com/resources/weblist.html.) includes so far 83 species, of which 32 are new to the archipelago. They belong to 37 genera. *Trechispora* (9 species), *Hyphodontia* (7 species), *Peniophora* (6 species), and *Tubulicium* (4 species) are the most significant genera. The following 32 species are new to Azores Archipelago: *Amyloxenasma allantosporum* (Oberw.) Hjortstam & Ryvarden, *Botryobasidium botryoideum* (Overh.) Parmasto, *B. obtusisporum* J.Erikss., *Cabalodontia subcretacea* (Litsch.) Piątek, *Cylindrobasidium eucalypti* (M.Dueñas & Tellería) Tellería & Melo, *C. torrendii* (Bres.) Hjortstam, *Dendrothele griseocana* (Bres.) Bourdot & Galzin, *Gloeocystidiellum clavuligerum* (Höhn. & Litsch.) Nakasone, *Hymenochaete fuliginosa* (Pers.) Lév., *H. rubiginosa* (Dicks.) Lév., *Hyphodontia abieticola* (Bourdot & Galzin) J.Erikss., *H. arguta* (Fr.) J.Erikss., *H. bugellensis* (Ces.) J.Erikss., *Litschauerella abietis* (Bourdot & Galzin) Oberw., *Peniophora bicornis* Hjortstam & Ryvarden, *P. cinerea* (Pers.) Cooke, *Peniophorella tsugae* (Burt) K.H.Larss., *Phanerochaete sordida* (P.Karst.) J.Erikss. & Ryvarden, *Phlebiella ardosiaca* (Bourdot & Galzin) K.H.Larss. & Hjortstam, *P. fibrillosa* (Hallenb.) K.H.Larss. & Hjortstam, *Scytinostromella nannfeldtii* (J.Erikss.) G.W.Freeman & R.H.Petersen, *Sistotrema brinkmannii* (Bres.) J.Erikss., *Subulicystidium longisporum* (Pat.) Parmasto, *S. nikau* (G.Cunn.) Jülich, *Trechispora caucasica* (Parmasto) Liberta, *Tr. cohaerens* (Schwein.) Jülich & Stalpers, *Tr. minima* K.H.Larss., *Tr. minuta* K.H.Larss., *Tr. subsphaerospora* (Litsch.) Liberta, *Tubulicium filicicola* (G.Cunn.) Oberw., *Tubulicrinis regificus* (H.S.Jacks. & Dearden) Donk, *Xenasma pruinosum* (Pat.) Donk.

Among the more frequent species are *Peniophorella praetermissa* (P.Karst.) K.H.Larss., *Peniophora lycii* (Pers.) Höhn. & Litsch., *Hymenochaete corrugata* (Fr.) Lév., *Tubulicium dussii* (Pat.) Oberw., *Amylostereum laevigatum* (Fr.) Boidin, *Aphanobasidium filicinum* (Bourdot) Jülich, *Hyphoderma transiens* (Bres.) Parmasto, *Hyphodontia nespori* (Bres.) J.Erikss. & Hjortstam, *Trechispora nivea* (Pers.) K.H.Larss., and *Tr. stellulata* (Bourdot & Galzin) Liberta. A remarkable finding is the presence in the archipelago of *Peniophora bicornis*, earlier recorded from Gabon, Réunion, Singapore, and Nepal (Boidin et al., 1991; Hjortstam & Ryvarden, 2007).

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Literature cited

Boidin J, Lanquetin P, Gilles G. 1991. Les *Peniophoraceae* de la zone intertropicale (*Basidiomycetes, Aphyllophorales*). A. Espèces paleotropicales. Bulletin de la Société Mycologique de France 107: 91-147

Dennis RGW, Reid DA, Spooner BM. 1977. The fungi of the Azores. Kew Bulletin 32(1): 85–136.

Dueñas M, Telleria MT, Melo I, Rodríguez-Armas JL, Beltrán E. 2008. A new species of *Candelabrochaete* (*Polyporales, Basidiomycota*). Mycotaxon 103: 299–305.

Hjortstam K, Ryvarden L. 2007. Checklist of corticioid fungi (*Basidiomycotina*) from tropics, subtropics and southern hemisphere. Synopsis Fungorum 22: 27–146.

Melo I, Dueñas M, & Telleria MT. 2008. *Repetobasidium azoricum* (*Basidiomycotina, Sistotremaceae*), a new species from Azores Islands. Synopsis Fungorum 25: 6-10.

Silva L, Smith CW. 2004. A characterization of the non-indigenous flora of the Azores Archipelago. Biological Invasions 6: 193-204.

Telleria MT, Melo I, Dueñas M, Rodríguez-Armas JL, Beltrán-Tejera E, Cardoso J, Salcedo I. 2009. Diversity and richness of corticioid fungi (*Basidiomycota*) on Azores Islands: a preliminary survey. Nova Hedwigia 88: 285-308.